



10

PATENT ABSTRACTS OF JAPAN

(11) Publication number: 05049780 A

(43) Date of publication of application: 02.03.93

(51) Int. Cl

D06F 25/00

**D06F 33/02**

D06F 58/08

(21) Application number: 03218229

(22) Date of filing: 29.08.91

(71) Applicant: TOSHIBA CORP

(72) Inventor: IMAMURA FUMIHIRO

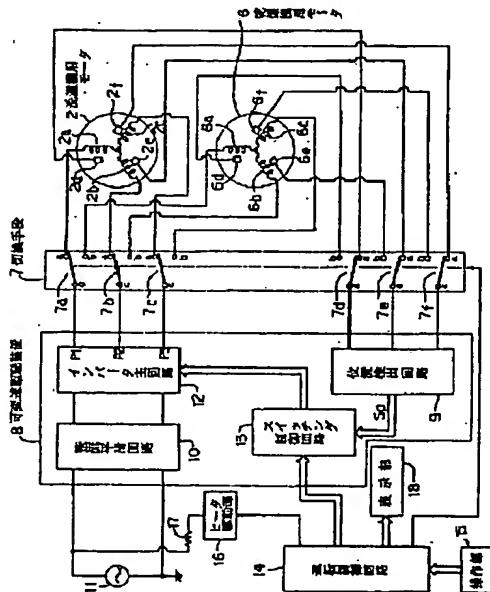
**(54) LAUNDRY APPARATUS**

drying machine can be carried out

(57) Abstract:

PURPOSE: To accomplish, at a low cost a merit such as lowering of noise or the like by variable speed operation of a motor.

CONSTITUTION: A switching means 7 is selectively switched to a washing operation mode or a drying operation mode according to a command from an operation control circuit 14. In the washing operation mode, a current signal from an inverter main circuit 12 of a variable speed driving device 8 is given to a motor 2 for a washing machine and position detection signals from magnetic sensors 2d-2f of the motor 2 for a washing machine are given to a position detecting circuit 9 of the variable speed driving device 8, so that variable speed operation of the motor 2 for a washing machine is enabled. In the drying operation mode, a current signal from the variable speed driving device 8 is given to a motor 6 for a drying machine, and position detection signals from magnetic sensors 6d-6f of the motor 6 for a drying machine 6 are given to the position detection circuit 9 of the variable speed driving device 8, so that the variable speed operation of the motor 6 for a



# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 05-049780

(43)Date of publication of application : 02.03.1993

(51)Int.Cl.

D06F 25/00

D06F 33/02

D06F 58/08

(21)Application number : 03-218229

(71)Applicant : TOSHIBA CORP

(22)Date of filing : 29.08.1991

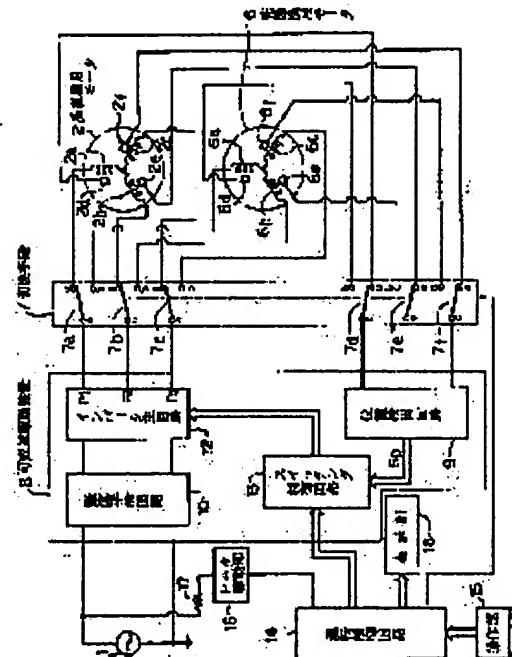
(72)Inventor : IMAMURA FUMIHIRO

## (54) LAUNDRY APPARATUS

### (57)Abstract:

PURPOSE: To accomplish, at a low cost a merit such as lowering of noise or the like by variable speed operation of a motor.

CONSTITUTION: A switching means 7 is selectively switched to a washing operation mode or a drying operation mode according to a command from an operation control circuit 14. In the washing operation mode, a current signal from an inverter main circuit 12 of a variable speed driving device 8 is given to a motor 2 for a washing machine and position detection signals from magnetic sensors 2d-2f of the motor 2 for a washing machine are given to a position detecting circuit 9 of the variable speed driving device 8, so that variable speed operation of the motor 2 for a washing machine is enabled. In the drying operation mode, a current signal from the variable speed driving device 8 is given to a motor 6 for a drying machine, and position detection signals from magnetic sensors 6d-6f of the motor 6 for a drying machine 6 are given to the position detection circuit 9 of the variable speed driving device 8, so that the variable speed operation of the motor 6 for a drying machine can be carried out.



## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office

\* NOTICES \*

JPO and NCIPPI are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

CLAIMS

---

[Claim(s)]

[Claim 1] In the laundry device which changes combining the washing machine equipped with the motor for washing machines, and the dryer equipped with the motor for dryers, after the thing in which adjustable-speed operation is possible constitutes said motor for washing machines, and the motor for dryers The laundry device characterized by establishing the variable speed drive equipment used as the common power source of each of said motor, and the means for switching which drives alternatively any of said motor for washing machines, and the motor for dryers they are with the output of this variable speed drive equipment.

---

[Translation done.]

Information

 An error is in input data.

[Translation done.]

\* NOTICES \*

**JPO and NCIPI are not responsible for any  
damages caused by the use of this translation.**

1. This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**TECHNICAL FIELD**

---

**[Industrial Application]** This invention relates to the laundry device which changes combining a washing machine and a dryer.

---

[Translation done.]

**\* NOTICES \***

JPO and NCIP are not responsible for any  
damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**PRIOR ART**

[Description of the Prior Art] in recent years, the thing of a configuration of carrying out adjustable-speed operation of the motor for washing and performing a series of strokes of a rinse and dehydration in an automatic washing machine presents practical use -- having -- \*\*\*\* -- \*\* -- when a configuration [ like ] is adopted, while being able to generate the various wash streams according to a class, an amount, etc. of the washing and being able to aim at improvement in added value, many merits with realizable reduction of the noise are obtained.

[0003] If it is specifically in the above washing machines, using DC brushless motor from which big torque is acquired is performed as a motor for washing machines also at the time of low-speed rotation, and carrying out drive control of this motor with the variable speed drive equipment which combined the DC-power-supply circuit, the inverter main circuit, etc. is performed.

[0004] moreover -- although practical use is not presented with the thing of a configuration of carrying out adjustable-speed operation of the motor for desiccation operation activation in the dryer -- \*\* -- when a configuration [ like ] is adopted, a merit, like control of wrinkling in a dry matter is attained can be expected not to mention the reduction in the noise.

---

[Translation done.]

**\* NOTICES \***

**JPO and NCIP are not responsible for any  
damages caused by the use of this translation.**

1. This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**EFFECT OF THE INVENTION**

---

**[Effect of the Invention]** After according to this invention the motor which can adjustable-speed operate the motor for washing machines and the motor for dryers constitutes so that clearly [ explanation / above ], Since it considered as the configuration which forms the variable speed drive equipment used as the common power source of these motors, and drives alternatively any of said motor for washing machines, and the motor for dryers they are with the output of this variable speed drive equipment What is necessary is just to face carrying out adjustable-speed operation of the motor for washing machines, and the motor for dryers, and to form one variable speed drive equipment, and the outstanding effectiveness that merits, such as reduction in the noise by adjustable-speed operation of a motor, are realizable with low cost is done so.

---

[Translation done.]

**\* NOTICES \***

**JPO and NCIPI are not responsible for any  
damages caused by the use of this translation.**

1. This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**TECHNICAL PROBLEM**

---

[Problem(s) to be Solved by the Invention] Considering that a noise reduction is in one of the merits of the function, in the laundry device which changes combining a washing machine and a dryer, it is irrational to give the adjustable-speed operation function of a motor which was mentioned above only to one side. However, in a laundry device, when giving the adjustable-speed operation function of the motor for washing machines, and the motor for dryers to both washing machine and dryer, it will be alike, respectively, comparatively expensive variable speed drive equipment will be needed, and the steep rise of the whole cost will be caused as a result.

[0006] In the laundry device by which this invention changes in view of the above situations combining a washing machine and a dryer It is made paying attention to the special conditions that whose these washing machines and a dryer are operated by coincidence with large-capacity-izing it is decreasing. The purpose One variable speed drive equipment can be shared to the drive of the motor for washing machines, and the drive of the motor for dryers, with it is in offering the laundry device which does so the effectiveness that merits, such as reduction in the noise, are realizable with low cost etc.

---

[Translation done.]

\* NOTICES \*

JPO and NCIP are not responsible for any  
damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

MEANS

---

[Means for Solving the Problem] This invention considers as the configuration which establishes the means for switching which drives alternatively any of said motor for washing machines, and the motor for dryers they are with the output of this variable-speed-drive equipment while it forms the variable-speed-drive equipment used as the common power source of these motors after the motor in which adjustable-speed operation is possible constitutes the motor for washing machines, and the motor for dryers in the laundry device which changes combining a washing machine and a dryer in order to attain the above-mentioned purpose.

---

[Translation done.]

\* NOTICES \*

JPO and NCIP are not responsible for any  
damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**OPERATION**

---

[Function] Adjustable-speed operation of the motor for dryers is performed in the adjustable-speed operation list of the motor for washing machines by the same variable speed drive equipment according to the selection actuation by the means for switching. Therefore, it becomes unnecessary to form variable speed drive equipment in each of a washing machine and a dryer, and the whole cost rise can be controlled now.

---

[Translation done.]

Information

 An error is in input data.

[Translation done.]

\* NOTICES \*

JPO and NCIP are not responsible for any  
damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**DESCRIPTION OF DRAWINGS**

---

[Brief Description of the Drawings]

[Drawing 1] Drawing showing the electric configuration of one example of this invention

[Drawing 2] The whole rough drawing of longitudinal section

[Description of Notations]

the inside of drawing, and 1 -- a washing machine and 2 -- in the motor for washing machines, and 4, a means for switching and 8 show variable speed drive equipment, and, as for a dryer and 6, 14 shows an operation control circuit, as for the motor for dryers, and 7.

---

[Translation done.]

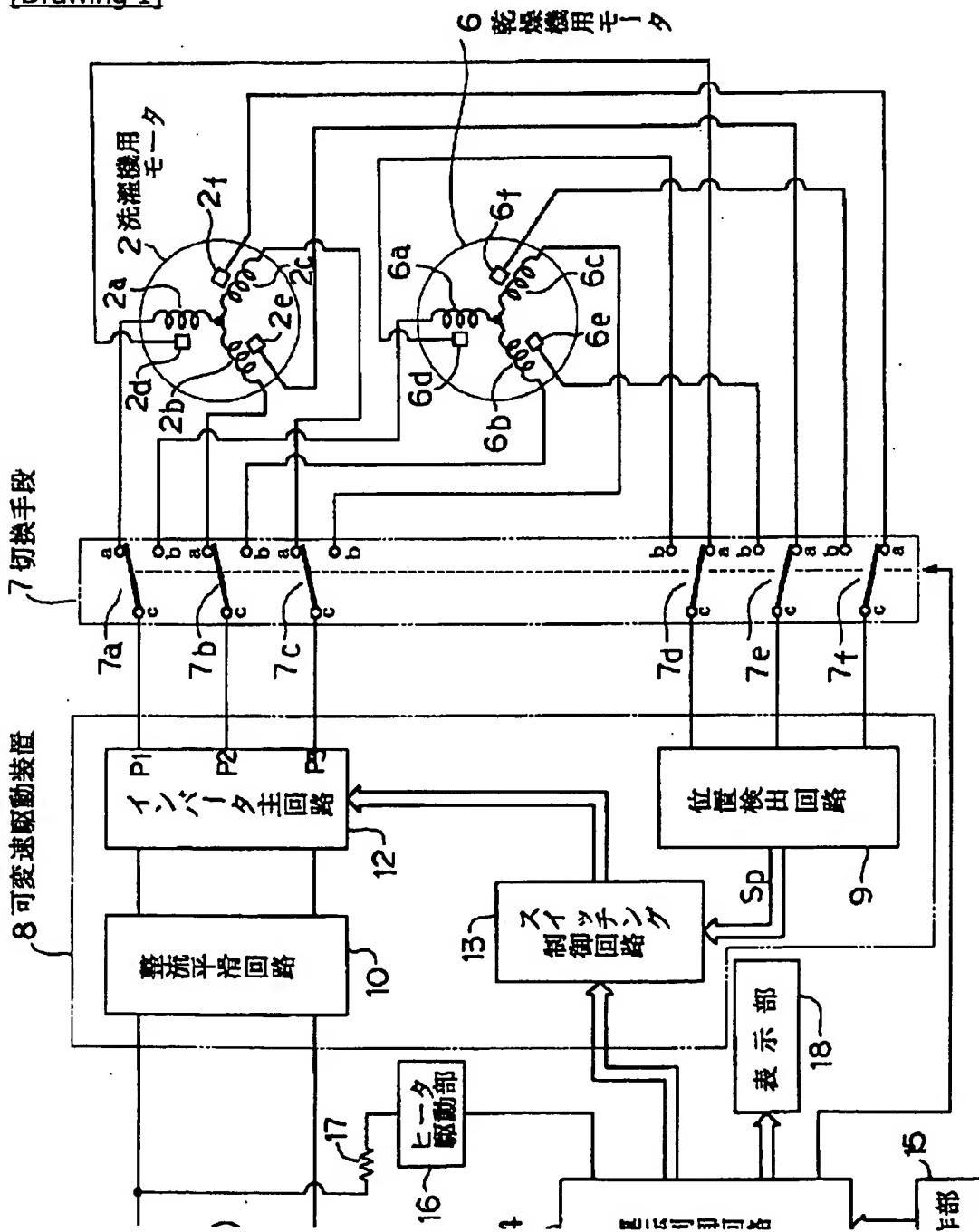
## \* NOTICES \*

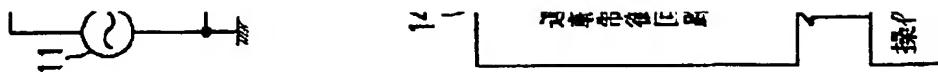
JPO and NCIPI are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

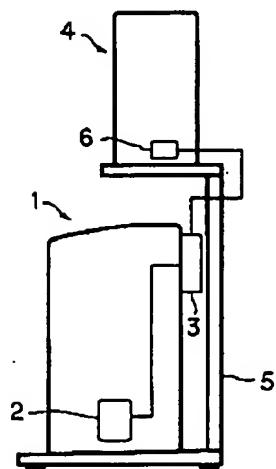
## DRAWINGS

## [Drawing 1]





[Drawing 2]



---

[Translation done.]